over four years of age, 76 per cent were positive. In another group in which the only evidence of tuberculosis was a positive skin reaction only 16.6 per cent gave positive complement-fixation tests. Roentgen-ray pictures in 117 children gave deviation from the normal in all. The characteristic clinical picture of masked tuberculosis is history of frequent colds and coughs, attacks of unexplained fever, anorexia, loss of weight, and asthenia. On physical examination more or less malnutrition, anemia, and chest signs referabe to enlarged tracheobronchial nodes are found. In certain instances there may be in addition phlyctenular disease or skin tuberculosis.

Observations on the Capacity of the Stomach in the First ten Days of Postnatal Life.—SCAMMON and DOYLE (*Am. Jour. Dis. Children*, December, 1920) found that the average physiologic capacity of the stomach in the first day after birth is about 7 gm. This practically doubles in the second day, quadruples in the third day, and increases almost seven times in the fourth. After the fourth day the increase is much slower, and the average capacity on the tenth day is 81 gm., or over eleven times that of the first day. The average maximum physiologic capacity increases in much the same manner as the average physiologic capacity. It is about one-fourth greater than the average physiologic capacity on the first day, about two-thirds greater on the second day. After that the difference between the two measures decreases rapidly until the sixth day, after which the average maximum capacity remains about one-third greater than the average capacity. The relative physiologic capacity increases in much the same way as the absolute physiologic capacity. It is equal to 0.21 per cent of the birth weight of the body on the first day, to 1.38 per cent on the fourth day, and to 2.43 per cent on the tenth day. The relative maximum capacity is equal to 0.27 per cent of the initial body weight on the first day, to 1.96 per cent on the fourth, and to 3.17 per cent on the tenth day. In the first ten days the parity has no constant effect on the physiologic capacities of children having an initial body weight of from 2000 to 4000 gm. Sex has no effect on the physiologic capacity in this period. The average deviation in physiologic capacity rises rapidly from the first to the fourth day. After that it increases slowly. The percentage decreases rapidly until the fifth day, and after that continues to drop very slowly. All indices of physiologic capacity indicate that there is a distinct change in the nature of this value after the fourth day. Until this time the increase in capacity, in whatever manner it is calculated, is very rapid and afterward it is much slower. In the first four days the average deviation in capacity is increasing rapidly, and percentage deviation is decreasing rapidly. After this time both of these measures change very little. The anatomic capacity of the stomach at birth averages 33 c.c. This is increased about one-third in the first three or four days, and is little more than doubled in the second week. There is no indication of two definite stages in the development of anatomic capacity in the neonatal period corresponding to the two phases of physiologic capacity. Anatomic capacity and physiologic capacity approximate one another about the fourth day. After that physiologic capacity runs parallel to the anatomic capacity, but is slightly greater. This agrees with previous findings regarding this relation throughout the greater part of the suckling period. The curve representing average physiologic capacity in the first ten days of postnatal life shows two phases. The first segment, from birth to the fourth day, shows little relation to the actual capacity of the organ, but is rather a measure of the ability of the average mother to furnish nourishment in this period, and the ability of the average child to receive it. The second segment, extending from the fourth to the tenth day, is probably a fair measure of the actual increase in gastric capacity compared with similar increases of this value made at later times in the suckling period. The gastric capacities of children weighing 4000 gm. or over at birth are somewhat different from those of infants of lighter weights. Both the average and the maximum average physiologic capacities of this group are smaller than those of children of lighter weight in the first three or four days of postnatal life, but these values increase rapidly in the fifth and sixth days, and before the end of the period exceed those of smaller infants. Parity has a slight but distinct effect on physiologic capacity in this group of larger infants, and first-born children have a smaller capacity than do the later-born. The anatomic capacities of children of this group are somewhat greater absolutely, but smaller relatively than in children of the lighter group.

Empyema in Infants and Young Children.—SPENCE (*Am. Jour. Dis. Children,* December, 1920) says that the mortality in infants and very young children is high with all methods of treatment employed. About 11 per cent of all of the cases of pneumonia in the Babies' Hospital in New York during the past seven years either had empyema on admission or developed it during their stay in the hospital. The mortality rate decreased very rapidly as the age of the infant advances. Empyema was the sequel of pneumonia in every case of this series. When pneumonia is a complication of the common infectious diseases of childhood, the mortality is very high. Pneumococcus in pure culture was present in the pus from the pleural cavity in 70 per cent of the cases. The mortality from this type of infection was the lowest in the series. The degree of leukocytosis is no guide to prognosis or to diagnosis. In this hospital siphon drainage gave better results than any other form of treatment.

A Study of the Blood and its Circulation in Normal Infants and in Infants Suffering from Chronic Nutritional Disturbances.—UTHEIM (*Am. Jour. Dis. Children,* November, 1920) found in this study that the serum protein in normal infants was from 6 to 6.5 per cent. and remained at this level until the tenth or eleventh month, when the protein began to rise, and by the fifteenth month it had reached the same level as found in adults, about 8 per cent. Infants suffering from various diseases showed, with the exception of the exudative diathesis and nephritis no remarkable change in blood protein concentration, while infants with acute diarrhea or vomiting had a high percentage of protein, the result of blood concentration. Premature infants and athreptic infants showed a low protein percentage in the blood, in many cases as low as 4 per cent. This condition in premature infants is an expression of the influences of age and development on the water metabolism of the organism. As far as the athreptic infants were concerned, the low protein in some cases seemed to be due to lack of power on the part of the organism to build up protein, and in other instances to the overfeeding with carbohydrates. The high water content of the organism in both premature and athreptic infants must be regarded as an important factor in the low immunity they show, thus predisposing these infants to multiple infections. Besides this high water content of the organism, the athreptic infants showed a very low rate of blood flow, which in some instances was due partly to the diminished blood volume, and in other instances to constriction of the peripheral small vessels in order to accomplish the distribution of the blood to the internal organs. This constriction of the peripheral vessels is proved by the differences found in the blood count and hemoglobin content between capillary and venous blood. The low blood flow is not usually accompanied by a lowering of blood-pressure because of compensatory factors such as diminution of the blood bed by atrophy of the skin, subcutaneous tissues and musculature; by contraction of the small peripheral vessels: and by possible change in the alimentary bloodvessels. This low rate of blood flow will contribute in lessening the resistance of these infants by depriving the body tissues of the necessary food, and in this way contribute to the breakdown of the body cells. Experiments on rabbits have shown that during complete starvation with deprivation of fluid, the body volume falls below the normal value for the body surface as a result of water loss from the blood. By giving only food and water to prevent further weight loss the blood volume is rapidly restored and quickly reached a value above normal for the body surface. When these findings are applied to infants it can be seen that in athreptic infants who show a lowering of blood volume all the above-mentioned factors will still further affect the organism, and all factors will work together in lowering the oxidizing power of the body cells and favor a breaking down of body tissues.

A Method of Determining the Appropriate Dose of Tuberculin for the Individual Tuberculous Child.—Solis-Cohen (*Arch. Ped.*, November, 1920), in determining the appropriate dose of tuberculin for the individual child, first makes the test for tuberculin hypersensitiveness. He injects intracutaneously into the patient's forearm at the same time $\frac{1}{10000000}$ mg. distally, $\frac{1}{1000000}$ mg. medially, and $\frac{1}{100000}$ mg. proximally, the injections being made in a diagonal line. This is done to avoid the same lymph channels, and there is less danger of the lymphatics carrying tuberculin from the large injection to the smaller. Twenty-four to forty-eight hours after the injections are made, their sites are examined for the presence of a papule or for induration, either of which is regarded as evidence of a reaction. If no reaction occurs $\frac{1}{10000}$ mg., $\frac{1}{1000}$ mg. and $\frac{1}{100}$ mg. are injected into the other arm in the same manner in which the first injections were made, the smallest dose being distally and the largest dose being proximally. If still no reaction occurs, $\frac{1}{10}$ mg., and 1 mg. are injected, and, if necessary at a still later time 10 mg. are injected. The smallest dose that produces a distinct reaction is administered therapeutically either by mouth or subcutaneously. The initial dose determined in this manner has never produced any untoward reaction in the hands of the author, although in some cases it was as high as $\frac{1}{100}$ mg. If this dose produces a favorable reaction such as increase of appetite, reduction of temperature, a general feeling of improvement it is repeated every three to five days until it loses its effect, when it is gradually increased until it again produces a favorable reaction. If it seems to produce no effect, it is repeated for several weeks and then increased. If any dose produces an unfavorable reaction such as rise of temperature, anorexia, malaise and the like, it is reduced. At intervals tests for hypersensitiveness are again made in the forearm, by injecting the dose that the patient is taking, and doses of $\frac{1}{10}$ of and ten times this amount. If no reaction occurs from any of these doses doses of one hundred times and ten thousand times the amount the patient is taking, are injected. If the amount producing the intracutaneous reaction is greater than the amount being given therapeutically, the latter is increased rapidly until it corresponds to the former. The writer has used the method mostly in children, and has given tuberculin Rückst (T.R.), because in his experience he has obtained the best reaction from this form. It does not seem to make any difference whether the tuberculin is given by mouth or subcutaneously. Some patients do better on one and some on the other method. He does not as a rule give tuberculin to patients who are doing well without it.

OBSTETRICS

UNDER THE CHARGE OF
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The Significance of Diphtheria Bacilli in the Body of the Mother Infecting the Child.—Lönne (*Zentralbl. f. Gynäk.*, 1920, No. 37) has made investigations in the clinic at Göttingen to determine the possibility of infection in newborn infants from diphtheria bacilli in the birth canal of the mother. It is well established that diphtheria bacilli are often present in the mouth and throat of persons apparently well. Very frequently patients suffering from slight sore-throat show the presence of these infected germs. Patients recovering from diphtheria frequently have the diphtheria bacilli in the urine. Evidently in both these cases it would be possible for the mother to infect the child. Regarding infants it must be remembered that nurses and attendants in hospitals and private houses may be diphtheria carriers. This has happened in a number of cases and it can readily be seen that under such conditions infants might easily become infected. As to the length of time during which diphtheria bacilli can exist in the human body after apparent convalescence, an instance is recorded where the diphtheria bacilli were found ninety-two days after a patient's recovery from the disease, and not infrequently from sixty-three to eighty-four days after the first positive result of examination for the diphtheria germ. As late as ten weeks after an attack of diphtheria, patients may pass the characteristic bacilli in the urine. In the case of infants, in two well-established instances, diphtheria germs gained access to the umbilicus after the separation of the cord. Again in